

ABSTRACT OF THE DISCLOSURE

A conformal end-fire antenna with a high impedance ground surface structure and an array of radiating elements formed thereon. The ground surface structure includes an array of metal protrusions on a electrically conductive sheet, the metal protrusions arranged in a two-dimensional lattice. The ground surface structure acts as a magnetic surface at an RF frequency band of interest, functioning as an electrical short at DC, and as a mirror which reflects an RF field in the frequency band with virtually no phase reversal.